

WHAT IS CLAIMED IS:

1. An electronic component mounting apparatus mounting electronic components on a printed board, comprising:

5 a plurality of component feeding units feeding the electronic components;
a suction nozzle picking up one of the electronic components from the component feeding units;

an illumination device illuminating the electronic component picked up by the suction nozzle;

10 a component recognition camera taking an image of the illuminated electronic component;

a recognition processing device performing a recognition processing of the image of the electronic component taken by the component recognition camera;

an image display device; and

15 a control device which requires the display to display the image of the electronic component taken by the component recognition camera when the electronic component is recognized to be improper based on a recognition processing result provided by the recognition processing device, changes an illuminating condition of the illumination devices based on an instruction of an operator monitoring the displayed image, requires the component recognition
20 camera to take another image of the electronic component picked up by the suction nozzle for another recognition processing under the changed illuminating condition, and mounts the electronic component on the printed board when the electronic component is recognized to be proper after said another recognition processing.

25 2. An electronic component mounting apparatus mounting electronic components on a printed board, comprising:

a plurality of component feeding units feeding the electronic components;
a suction nozzle picking up one of the electronic components from the component feeding units;

30 an illumination device illuminating the electronic component picked up by the suction nozzle;

a component recognition camera taking an image of the illuminated electronic component;

a recognition processing device performing a recognition processing of the image of the electronic component taken by the component recognition camera;

5 an image display device; and

a control device which requires the display to display the image of the electronic component taken by the component recognition camera when the electronic component is recognized to be improper based on a recognition processing result provided by the recognition processing device, modifies component library data of the electronic component based on an instruction of an operator monitoring the displayed image, requires the component recognition camera to take another image of the electronic component picked up by the suction nozzle for another recognition processing using the modified component library data, and mounts the electronic component on the printed board when the electronic component is recognized to be proper after said another recognition processing.

15

3. A method for mounting an electronic component, comprising:

picking up the electronic component from a component feeding unit by a suction nozzle;

illuminating the electronic component picked up by the suction nozzle;

20 taking an image of the illuminated electronic component by a component recognition camera;

displaying the image taken by the component recognition camera when the electronic component is recognized to be improper based on a recognition processing performed on the image taken by the component recognition camera;

25 changing an illuminating condition based on a decision by an operator monitoring the displayed image; and

mounting the electronic component on a print board when the electronic component picked up by the suction nozzle is recognized to be proper based on another recognition processing performed under the changed illumination condition.

30 4. The method for mounting an electronic component of claim 3, wherein the electronic component is an electronic component that is picked up first from the component feeding unit

when a series of mounting operations starts for a type of printed board.

5 5. The method for mounting an electronic component of claim 3, wherein the component feeding unit comprises a plurality of units, and the electronic component is each of electronic components that are picked up first from corresponding units when a series of mounting operations starts for a type of printed board.

10 6. The method for mounting an electronic component of claim 3, wherein the component feeding unit comprises a plurality of units that are disposed on corresponding feeder bases, and the electronic component is each of electronic components that are picked up first from corresponding units that are disposed on a feeder base selected from the feeder bases when a series of mounting operations starts for a type of printed board.

15 7. A method for mounting an electronic component, comprising:
picking up the electronic component from a component feeding unit by a suction nozzle;
illuminating the electronic component picked up by the suction nozzle;
taking an image of the illuminated electronic component by a component recognition camera;
displaying the image taken by the component recognition camera when the electronic
20 component is recognized to be improper based on a recognition processing performed on the image taken by the component recognition camera;
modifying component library data of the electronic component in response to a decision by an operator monitoring the displayed image; and
mounting the electronic component on a print board when the electronic component
25 picked up by the suction nozzle is recognized to be proper based on another recognition processing performed using the modified component library data.

30 8. The method for mounting an electronic component of claim 7, wherein the electronic component is an electronic component that is picked up first from the component feeding unit when a series of mounting operations starts for a type of printed board.

9. The method for mounting an electronic component of claim 7, wherein the component feeding unit comprises a plurality of units, and the electronic component is each of electronic components that are picked up first from corresponding units when a series of mounting operations starts for a type of printed board.

5

10. The method for mounting an electronic component of claim 7, wherein the component feeding unit comprises a plurality of units that are disposed on corresponding feeder bases, and the electronic component is each of electronic components that are picked up first from corresponding units that are disposed on a feeder base selected from the feeder bases when a series of mounting operations starts for a type of printed board.

10